

Appl. No. 09/854,798
Amdt. Dated June 29, 2004
Reply to Office action of March 29, 2004
Attorney Docket No. P13126-US2
EUS/J/P/04-3140

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of controlling transmitted power in a cell of a packet data mobile radio network, comprising the steps of:
measuring a packet data load in said cell wherein said packet data load is based on packet queue measurements;
determining a common transmitted power based on said packet data load; and
applying said common transmitted power to a plurality of channels in said cell.
2. (Original) The method according to claim 1, wherein said plurality of channels includes substantially all channels in said cell.
3. (Original) The method according to claim 1, wherein said plurality of channels includes a group of channels defined based on a quality of service requirement thereof.
4. (Original) The method according to claim 1, wherein said plurality of channels includes a group of users defined based on a quality of service requirement thereof.
5. (Original) The method according to claim 1, wherein said plurality of channels includes downlink channels.
6. (Original) The method according to claim 1, wherein said plurality of channels includes uplink channels.

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7. (Original) The method according to claim 1, wherein said packet data load is weighted according to one or more predetermined criteria.

8. (Original) The method according to claim 1 wherein said common transmitted power is adjusted with a predefined offset based on individual user quality of service profiles.

9. (Original) The method according to claim 1, wherein said packet data load is based on channel utilization.

10. (Original) The method according to claim 1, wherein said packet data load is statistically derived over a predefined time period.

11. (Canceled)

12. (Original) The method according to claim 1, wherein said packet queue measurements include a total queue length.

13. (Original) The method according to claim 1, wherein said packet queue measurements include the longest queue.

14. (Original) The method according to claim 1, wherein said packet queue measurements include queue length changes.

15. (Original) The method according to claim 1, wherein said packet queue measurements include a packet length distribution.

16. (Original) The method according to claim 1, wherein said packet queue measurements include the longest packet.

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17. (Original) The method according to claim 1, further comprising measuring a radio link quality for said plurality of channels, and adjusting said common transmitted power for any channel having a radio link quality measure outside a predefined quality window.

18. (Original) The method according to claim 17, wherein said radio link quality includes a channel data rate.

19. (Original) The method according to claim 17, wherein said radio link quality includes a carrier-to-interference ratio.

20. (Original) The method according to claim 17, wherein the quality window is defined by a lower and upper channel data rate of approximately 7-20 kbps/time slot for GMSK and approximately 14-60 kbps/time slot for 8-PSK.

21. (Original) The method according to claim 17, wherein the quality window is defined by a lower and upper carrier-to-interference ratio of approximately 7-25 dB for GMSK and approximately 7-35 dB for 8-PSK.

22. (Currently Amended) A system for controlling transmitted power in a cell of a packet data mobile radio network, comprising:

a base transceiver station;

a channel scheduler in said base transceiver station configured to measure a packet data load in said cell, wherein said channel scheduler measures said packet data load based on packet queue measurements; and

a power control unit connected to said channel scheduler and having a power control algorithm therein, said power control algorithm configured to determine a common transmitted power based on said packet data load, and said power control unit is configured to apply said common transmitted power to a plurality of channels in said cell.

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23. (Original) The system according to claim 22, wherein said plurality of channels includes substantially all channels in said cell.

24. (Original) The system according to claim 22, wherein said plurality of channels includes a group of channels defined based on a quality of service requirement thereof.

25. (Original) The system according to claim 22, wherein said plurality of channels includes a group of users defined based on a quality of service requirement thereof.

26. (Original) The system according to claim 22, wherein said plurality of channels includes downlink channels.

27. (Original) The system according to claim 22, wherein said plurality of channels includes uplink channels.

28. (Original) The system according to claim 22, wherein said packet data load is weighted according to one or more predetermined criteria.

29. (Original) The system according to claim 22, wherein said power control program is further configured to adjust said common transmitted power with a predefined offset based on individual user quality of service profiles.

30. (Original) The system according to claim 22, wherein said channel scheduler measures said packet data load based on channel utilization.

31. (Original) The system according to claim 22, wherein said packet data load is statistically derived over a predefined time period.

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32. (Canceled)

33. (Original) The system according to claim 22, wherein said packet queue measurements include a total queue length.

34. (Original) The system according to claim 22, wherein said packet queue measurements include the longest queue.

35. (Original) The system according to claim 22, wherein said packet queue measurements include queue length changes.

36. (Original) The system according to claim 22, wherein said packet queue measurements include a packet length distribution.

37. (Original) The system according to claim 22, wherein said packet queue measurements include the longest packet.

38. (Original) The system according to claim 22, wherein said base station transceiver is configured to measure a radio link quality for said plurality of channels, and said power control algorithm is further configured to adjust said common transmitted power for any channel having a radio link quality measure outside a predefined quality window.

39. (Original) The system according to claim 38, wherein said radio link quality includes a channel data rate.

40. (Original) The system according to claim 38, wherein said radio link quality includes a carrier-to-interference ratio.

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41. (Original) The system according to claim 38, wherein the quality window is defined by a lower and upper channel data rate of approximately 7-20 kbps/time slot for GMSK and approximately 14-60 kbps/time slot for 8-PSK.

42. (Original) The system according to claim 38, wherein the quality window is defined by a lower and upper carrier-to-interference ratio of approximately 7-25 dB for GMSK and approximately 7-35 dB for 8-PSK.

43. (Original) A method of controlling transmitted power in a cell of a packet data mobile radio network, comprising the steps of:

- measuring a packet data load in said cell based on a predetermined one of channel utilization and packet queue measurements;

- determining a common transmitted power based on said packet data load;

- applying said common transmitted power to a plurality of channels in said cell;

- measuring a radio link quality for said plurality of channels in said cell; and

- adjusting said common transmitted power for any channel having a radio link quality measure outside a quality window defined based on a predetermined one of channel data rate and carrier-to-interference ratio.